ABSTRACT OF THE DISCLOSURE

Low dielectric constant porous materials with improved elastic modulus and material hardness. The process of making such porous materials involves providing a porous dielectric material and plasma curing the porous dielectric material with a fluorine-free plasma gas to produce a fluorine-free plasma cured porous dielectric material. Fluorine-free plasma curing of the porous dielectric material yields a material with improved modulus and material hardness, and with comparable dielectric constant. The improvement in elastic modulus is typically greater than or about 50%, and more typically greater than or about 100%. The improvement in material hardness is typically greater than or about 50%. It is emphasized that this abstract is provided to comply with the rules requiring an abstract which will allow a searcher or other reader to quickly ascertain the subject matter of the technical disclosure. It is submitted with the understanding that it will not be used to interpret or limit the scope or meaning of the claims. 37 CFR §1.72(b).